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THE OHIO MULTIPLE-UNIT POULTRY HOUSE

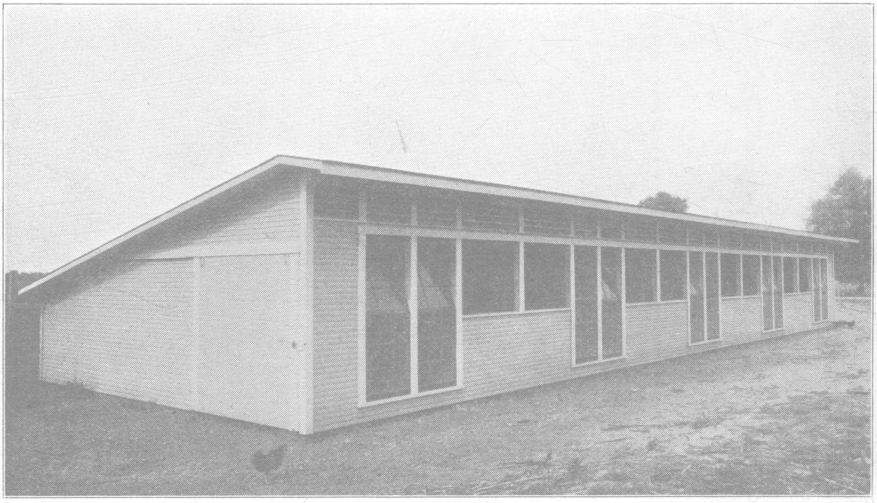

Fig. 1.—A 2½-unit poultry house in Logan County. One of the advantages of this type of house is that additional units can be added at any time.

By

E. L. DAKAN and G. S. VICKERS

Department of Poultry Husbandry, The Ohio State University

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ILLUSTRATIONS

THE OHIO MULTIPLE-UNIT POULTRY HOUSE

by
E. L. DAKAN and G. S. VICKERS

THE Ohio multiple-unit poultry house has been designed to meet the demands of poultrymen who have a large flock or are increasing the size of their flocks. It is so arranged that it can be constructed in any multiple of the unit given. The plans as here shown are for one unit 25 feet wide and 30 feet long, and will accommodate 250 Leghorns or 200 of any American class of fowls.

The picture on the cover page shows two and one-half units, and illustrates the ease with which the plans can be adapted to any length desired. The width of the house can, in like manner, be adjusted to meet the requirements of each owner. We advise the 25-foot width for large flocks and the 20-foot width for smaller ones. Under no conditions should the house be built narrower than 20 feet.

If the width of the house is reduced, the height in front should also be reduced, leaving the height in the rear the same as the wider house. Using 5 feet as a basis for the rear, the height in front can easily be determined by allowing approximately 2½ inches to the foot as slope for the roof. For a 20-foot house, this would make the height in front 9 feet. The standard lengths of dimension lumber for the front framing should be taken into consideration.

The rafters for the narrower house may be 2 by 4 inches instead of 2 by 6 inches.

When more than one unit of the house is built, or when the flock is larger than 200 hens, a feed room should be constructed in one end of the house. This room should be at least 10 by 25 feet in size, should provide floor space for mixing the mash, storage bins for grains, shell, and meat scraps; a desk for keeping records; and a table for grading and packing eggs. Wherever possible, a bank cellar under this feed room should be provided for root crops and storage. If properly planned, this basement room can be used for incubation during the hatching season, and for crate fattening the broilers for early market.

BUILDING SPECIFICATIONS

THE FOUNDATION

The foundation wall shown in plans is 8 inches thick; it extends below the frost line and 12 inches above the outside ground

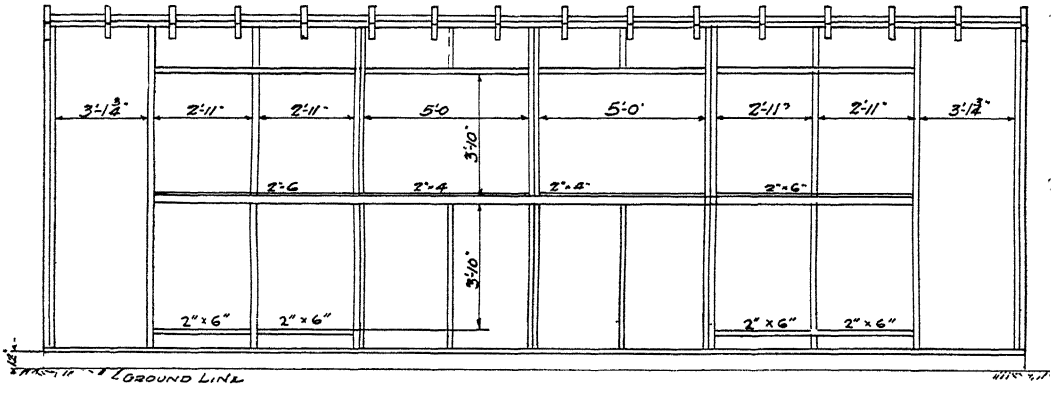

Fig. 2.—Front framing plan of one unit, 30 feet long. It will be seen how the windows fit in between the studs, mak window frames unnecessary. Notice that each window sash rests on a 2- by 6-inch sill.

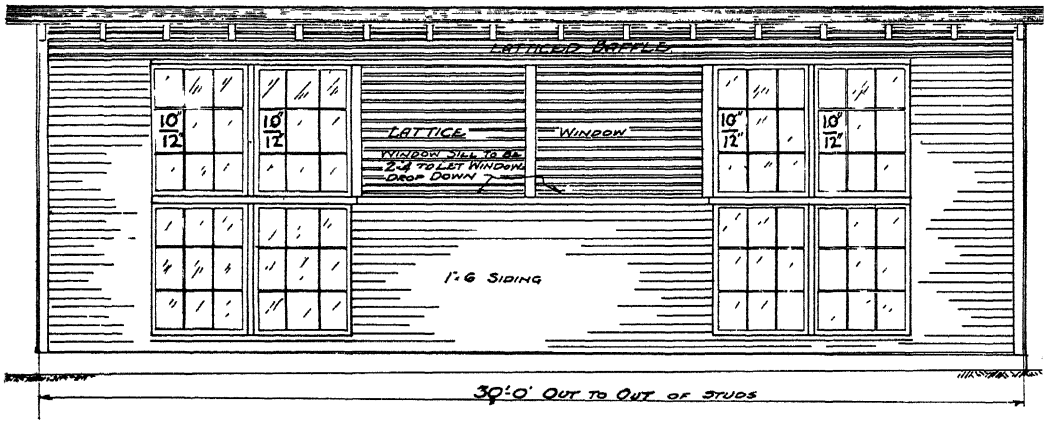

Fig. 3.—Front elevation. Details of the latticed baffle and latticed windows are shown on page 13. The lattic windows slide up and down. The baffle at the top is stationary.

surface level. A 6-inch wall would probably suffice under ordinary conditions. At the bottom of the foundation under each wall is a 4-inch tile connected to a good outlet for carrying away gravitational water (see Fig. 11). This tile should be covered with 3 or 4 inches of crushed stone to prevent the cement from closing the joints (for plan of foundation see Fig. 18).

THE FLOOR

The floor is of cement, 12 inches above the outside ground surface level. An 8-inch fill of coarse gravel or cinders well tamped is covered with 3 inches of 1:2½:5 concrete and ½ inch of 1:2 top dressing to give the floor a smooth finish. A layer of one-ply roof-

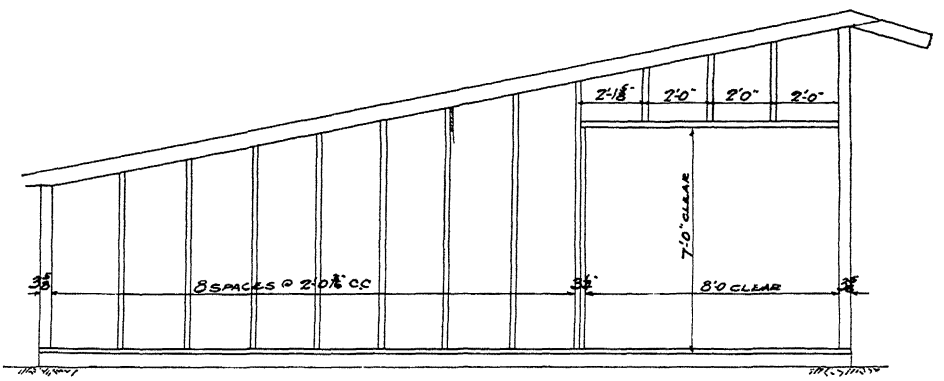

Fig. 4.—End framing plan. Width 25 feet out to out of studs. This illustration shows the hood which projects over the front of building, to keep rain and snow from entering thru lattice and windows.

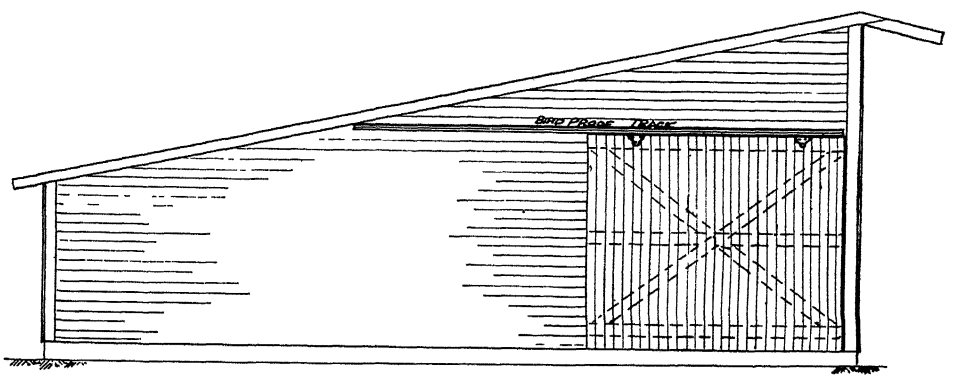

Fig. 5.—End elevation. The 8-foot door should be placed in the end opposite the feed room. This door allows a team to be used in cleaning out the house. Plans for other end of house are shown on next page.

ing paper covers the entire floor surface just under the cement. This paper insures a dry floor by stopping the capillary rise of water.

Hollow tile or hollow brick, where their cost is not too great, may be used to advantage to stop the capillary rise of water, and insure a dry floor. In case hollow tile or brick are used, they must be laid on a firm, level foundation, and smoothed over with a rich mixture of cement and sand.

THE WALLS

The walls consist of 2- by 4-inch studs, upon which is laid 1- by 6-inch drop siding. The plans on pages 4 to 7 show the details of arrangement. When additional units are added to the plan, part of the front siding where the units join should be replaced by lattice windows, as shown in the illustration on first page.

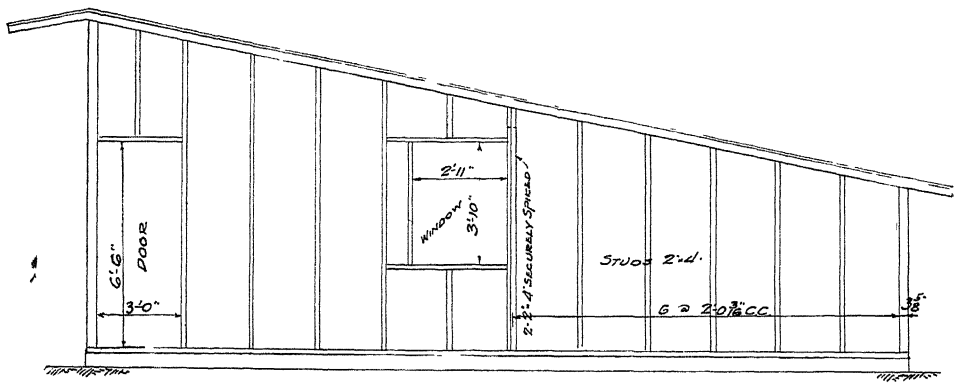

Fig. 6.—End framing. The small door opens into the feed room. Where the rafters meet, two studs are used instead of one.

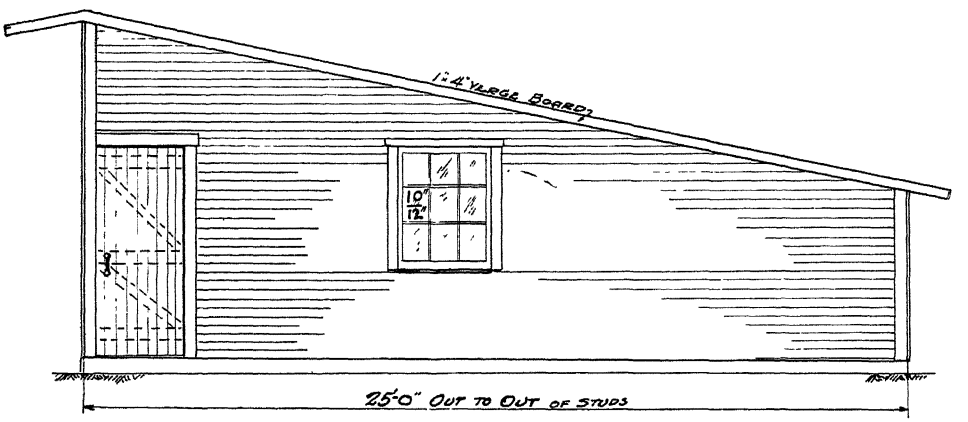

Fig. 7.—End elevation. The single-sash window is of 9-light, 10- by 12-inch glass, the same as in front of house.

The details for the construction of the ends are so clearly given, and the construction is so simple that description is unnecessary. The 8-foot door should not be left out, as this makes it possible to use a team in cleaning out the house. It should be placed in the end opposite the feed room, if such a room is embodied in the house.

The rafters are 2 by 6 inches, a 14-foot length being used for the rear section and a 16-foot length for the front. If a narrower house is built 2- by 4's may be used for rafters. The front rafter is sawed off at an angle 5½ to 12 inches, and the end nailed to the

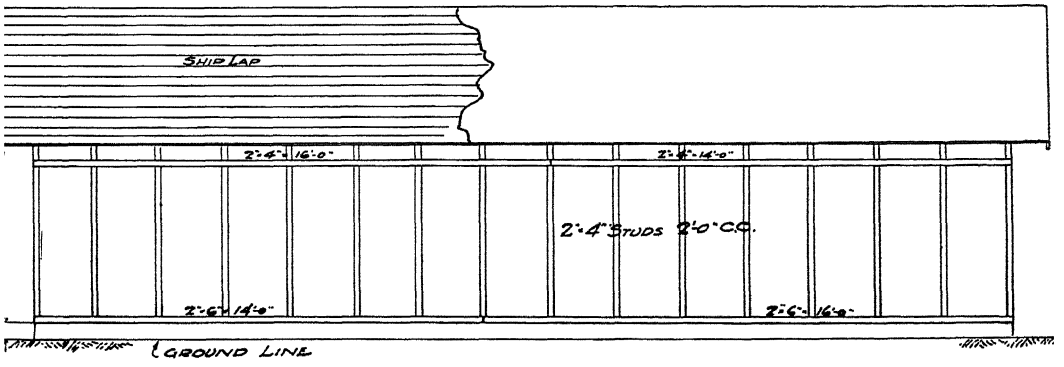

Fig. 8.—Rear framing plan. The studs are equally spaced 2 feet on center. Single plate is shown with dimensions. The windows fit in between the studs, and should be placed as shown in illustration below.

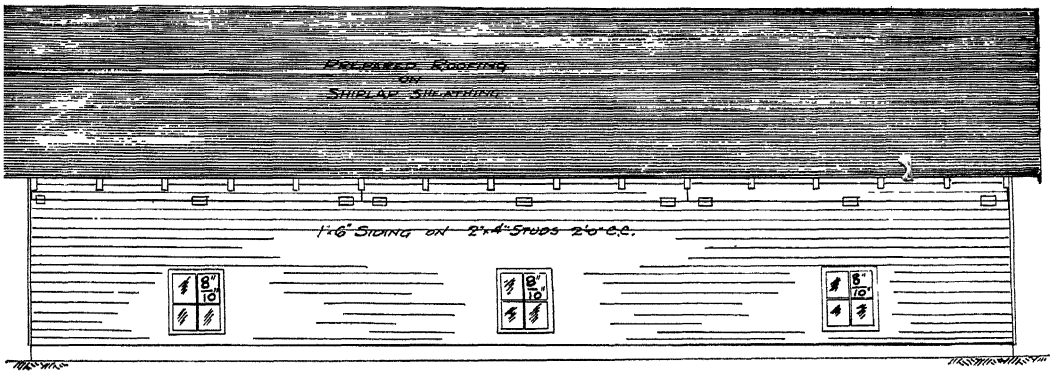

Fig. 9.—Rear elevation. The doors just under the plate are 12 inches wide and 10 feet long. The windows should be hinged at the top, so that when opened they may be fastened up to the underside of the dropping boards.

under side of the rafter to form the hood or protector shown in the illustrations. This hood is an important feature, since it protects the ventilators and windows, and also adds to the appearance of the house.

On the rafters is laid a good grade of shiplap which is covered with prepared roofing (see Rear Elevation, Fig. 9).

LIGHT

Light is secured from three sides—thru two double windows in the front of the house, three in the back, and one single sash window in the end. The windows in front and end are of 9-light, 10- by 12-inch glass, and are especially adapted to this size house. Under no conditions should smaller windows be used unless a smaller, narrower unit is constructed.

The front windows are heavy, therefore the top sash should not be hinged to the lower sash, as the weight will be sure to split the windows. The windows should rest free on the 2- by 6-inch sills provided for that purpose. Especially note that each sash rests on a separate sill (see Fig. 15). All front and end windows

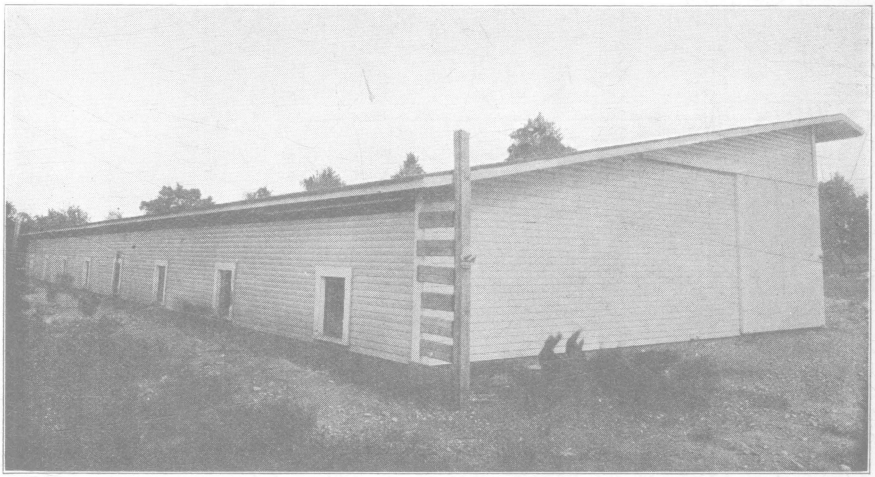

Fig. 10.—Rear view of poultry house shown in Fig. 1.

are free to swing in at the top, with chain attachment to hold them in place; they may be removed entirely as the weather or seasonal conditions require.

At the rear of the house, single-sash, 4-light, 8- by 10-inch windows are placed every 10 feet under the dropping boards. These windows are hinged at the top, and should be opened and fastened up to the underside of the dropping boards in warm weather.

All windows are held in place by the 2- by 4-inch studs, no window frames being necessary. All openings should be covered with ¼-inch hardware mesh, or ½-inch wire netting.

The front framing plan (see Fig. 2) shows in detail the plans for window arrangement. This plan should be followed closely.

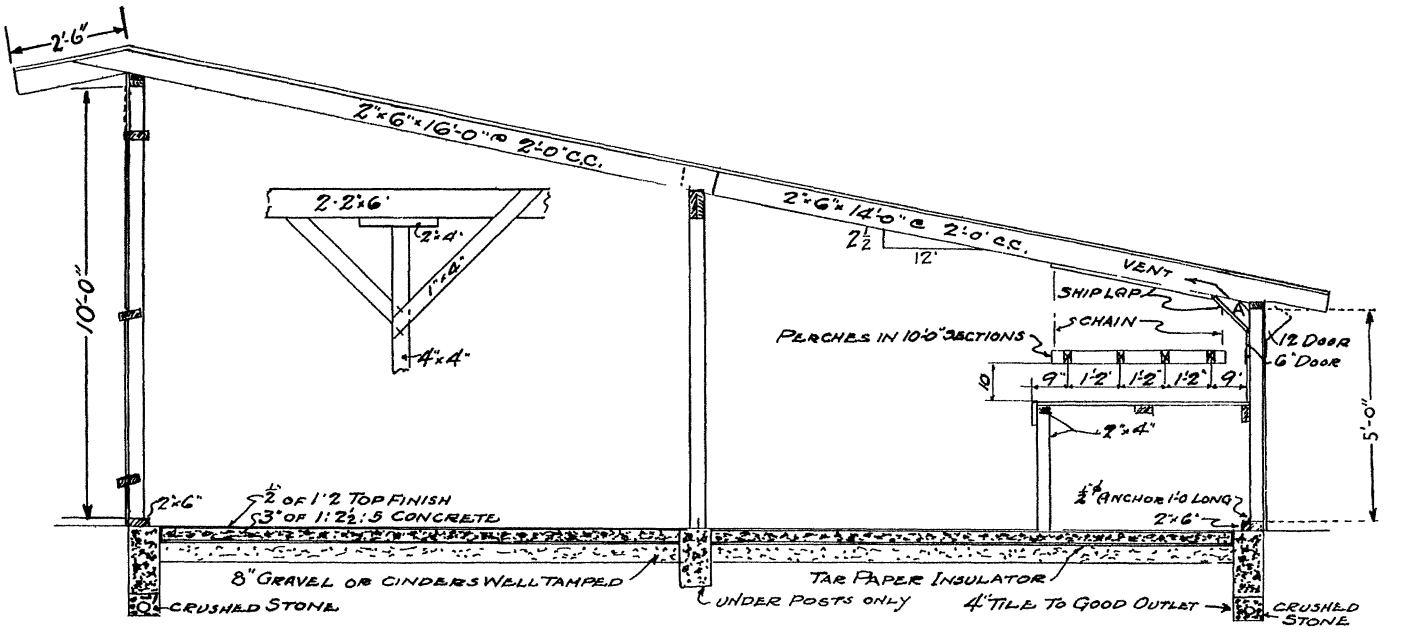

Fig. 11.—Cross section of poultry house. Height in front 10 feet, sloping to 5 feet in rear. The 4- by 4-inch in center indicates position of center posts This detail is also shown in Fig. 18. Note arrangement of roosts, and the double wall over roosts and down as far as the dropping board in the rear. The roosts may be made of either 2- by 2-inch or 2- by 4-inch material, with rounded tops and swing from rafters by means of a chain. Insert shows the method of bracing from the center posts. The 2- by 4-inch shown strengthens the joint of the two 2- by 6-inch supports. There is a fall of 2½ inches to the foot, in slope of roof. Detailed cross sections thru the front and rear are shown in Figs. 15 and 17.

The features providing ventilation in this house are complete in every detail, and houses now in use show it to be the best ventilated under the widest range of weather conditions of any house in use in the state.

In the front just below the top plate is a 12-inch stationary lattice ventilator extending across the entire front (see Front Elevation, page 4).

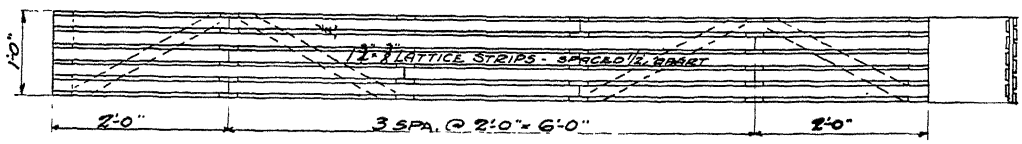

Fig. 12.—Baffle sections are made in 10-foot lengths. These may be made of common plaster lath.

Figure 1 shows a different style of ventilator. This style, however, does not act as a baffler to wind and rain as does the style shown in these plans (see Figs. 3 and 12) and for that reason is not recommended.

There is a 6-inch opening covered with wire in the space between the rafters above the top plate and under the roof, making a total of 18 inches at the highest point in the house open for ventilation at all times. Under no conditions should this feature be left out of the house.

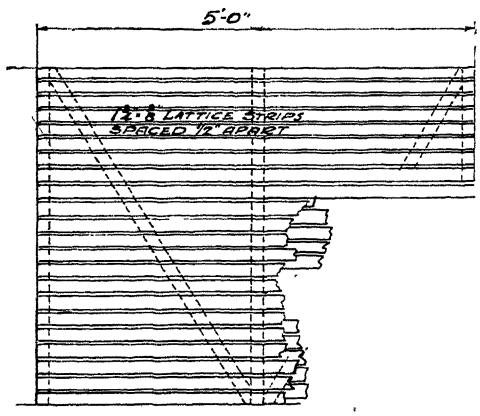

Fig. 13.—Method of constructing lattice window. The strips are nailed to a frame made of 1- by 3-inch material. If plaster lath are used, they should be nailed on the narrow way of the frame.

Fig. 14.—Cross section of lattice windows.

Two lattice windows each 3 feet 10 inches high and 5 feet long are provided to increase the amount of opening for ventilation. These lattice windows slide up and down on the inside of the house, and when up rest on a 2- by 4-inch sill. Under no conditions should these lattice windows be built in stationary. They are for use only when rain or snow requires that the inside of the house be protected.

In making the windows, lattice strips 1¾ inches wide and ⅜ inch thick are nailed ½ inch apart on opposite sides of a frame made of 1- by 3-inch boards in such a way that the ½-inch opening on one side is covered on the opposite side of the frame by a lattice strip. This prevents water, snow, or wind from entering the house, but insures openings for fresh air. In this respect it is much better than muslin, since muslin becomes sealed over with dust, and when wet shrinks up, closing the mesh and preventing the free circulation of air.

Tests made during the winter of 1921 prove conclusively that muslin curtains will not permit free circulation of air during a wet season. The lattice window or baffler does allow free ventilation. This house has no muslin curtains and none are recommended.

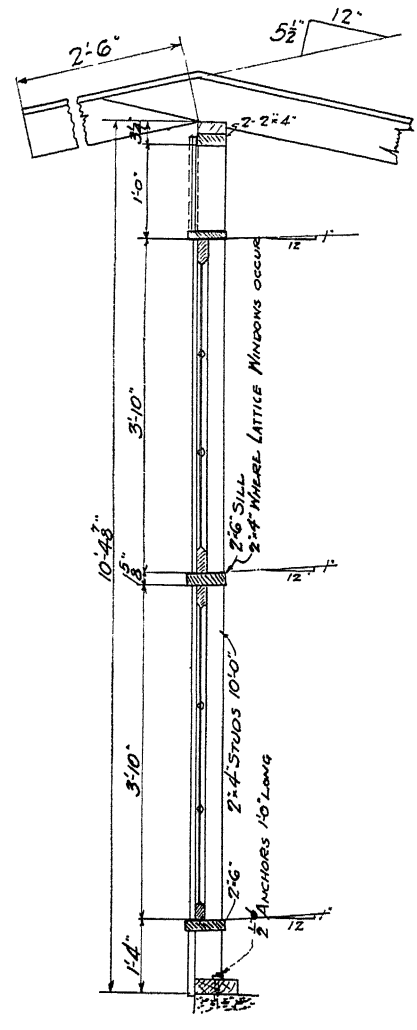

Fig. 15.—Section thru front. Note angle at which the two 2- by 6-inch sills are placed. Also the angle at which rafter is cut to form hood.

Cross ventilation for warm weather is secured by having an opening 12 inches wide just under the rear plate, extending across the entire house. This opening is secured by leaving off the two strips of siding under the plate. Doors 10 feet long, hinged at the bottom, are provided to close the

rear ventilator during severe weather (see Fig. 9). The inside of the house is double walled over the roost and down as far as the dropping boards on the rear wall. This is to prevent draft in

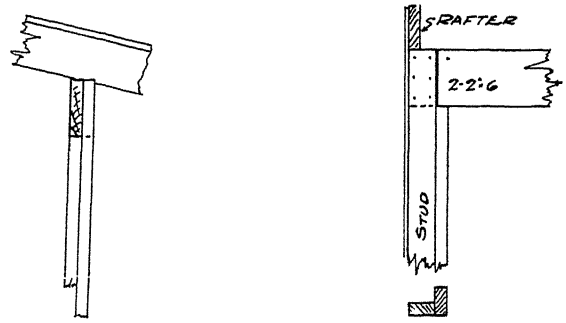

Fig. 16.—Sections thru end, showing the method of fastening the two 2- by 6- inch supports which extend thru the house to the studs at the end.

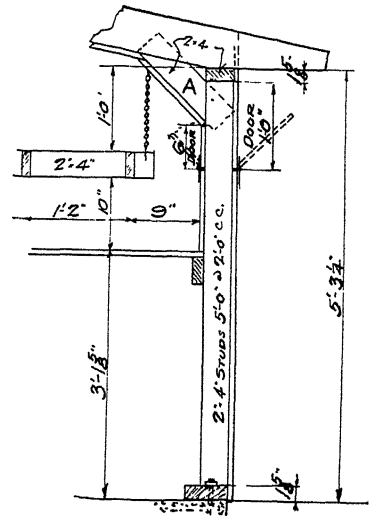

Fig. 17.—Section thru rear, showing details of back ventilator and 6-inch door on inside walls. Note the short 2- by 4-inch, marked "A," nailed to each rear stud and rafter to increase size of vent. This allows better circulation of air. Roosts are hung by chains 1 foot from lowest point of roof.

the winter time and hold the heat over the hens in cold weather. (See Fig. 17.) A 6-inch door is provided in this inside wall to permit the free circulation of air during warm weather.

A short piece of 2- by 4-inch material is used in the corner where the rafter joins the plate to increase the space at this point between the inside wall and the plate in order to permit the free circulation of air thru the ventilator between the rafters and the roof. This feature is shown in Figs. 11 and 17, and the piece of 2- by 4-inch is labeled "A."

Summer ventilation is secured by opening all front, end, and rear windows, and by leaving both the 3-foot and the 8-foot doors open. The front and end windows should not be hinged either at the

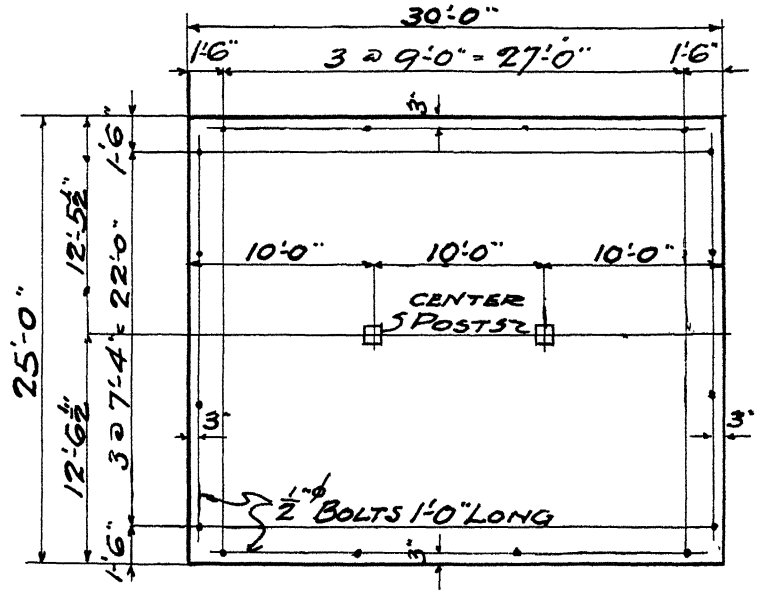

Fig. 18.—Foundation and anchor bolt plan. This illustration also shows location of center posts.

top or bottom, but should rest free and swing in at the top. A strip one inch thick nailed to the window sill will hold them in place on the sill and they can be adjusted to open any desired width at the top by means of a chain. When windows are fastened to the sills by hinges they are hard to remove for summer ventilation.

All openings should be covered with ¼-inch hardware mesh or ½-inch wire netting, which should be nailed on the outside of the house. This permits windows to be opened from inside. Cover the edges of the wire with 1- by 3-inch window trim.

Plans for a water bucket stand and a mash self-feeder are shown on pages 14 and 15. The stand is arranged to hold an ordinary 14-quart galvanized water pail. For a large flock of hens, the stand may be built to hold several pails. The stand should be placed in the center of the house.

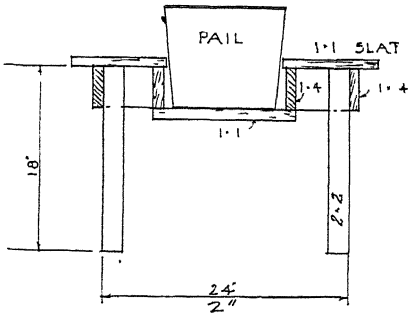

Fig. 19.—Cross section of water stand.

In using a mash self-feeder, allow a 50-inch trough for each 50 hens in the flock. The trough is made of 10-inch boards; the sides are placed on the outside of the bottom board, making the width 12 inches. This makes the inside depth 9 inches. The 10-inch boards on either end of frame are cut out to a depth of 5 inches to support trough.

The wire used should be No. 9 wire, and should be run back and forth, as shown, the entire length of frame. Fasten ends of wire so birds will not be injured.

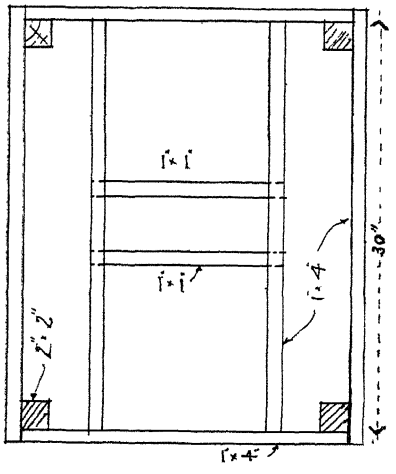

Fig. 20.—Framing for top of stand.

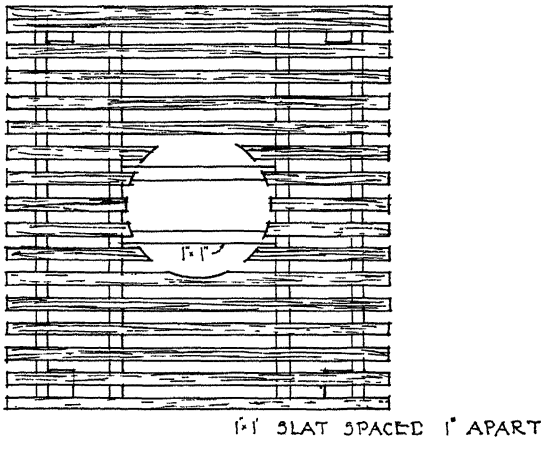

Fig. 21.—Top view of water stand.

No plans for nests are given. The nests should be constructed one above the other along the end walls. They should be 14 inches square, and one nest for each six hens should be constructed. Under no condition should the nests be placed under the dropping boards.

The roosts are of 2- by 2-inch or 2- by 4-inch lumber with rounded tops in 10-foot sections and each section is suspended from the rafters by means of a chain as shown in Figs. 11 and 17.

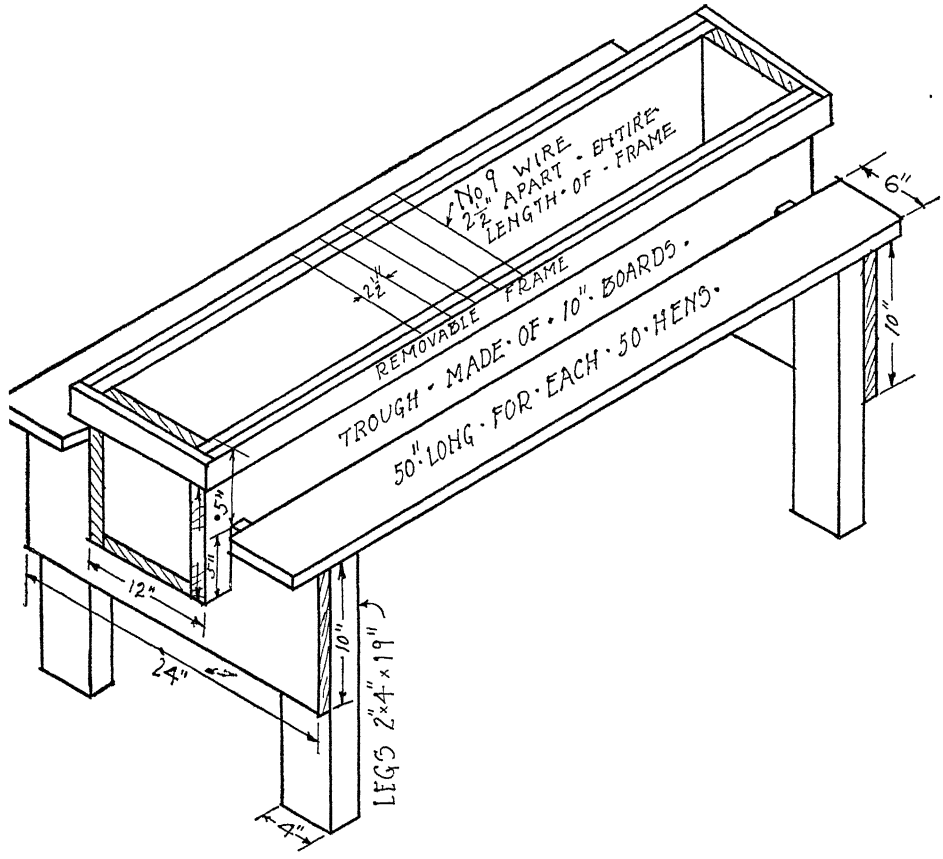

Fig. 22.—Mash self-feeder for hens.

IMPORTANT

1. Build the foundation and floor high and dry.
2. Don't use small windows in the front of the house.
3. Use common plaster lath for the lattice windows and ventilators. They may run up and down, or lengthwise.
4. Don't let a carpenter talk you into altering the plans. They may be adapted to a narrower house without change.

BILL OF MATERIAL

No. Pieces	Size inches	Length feet	Use
15	2 x 4	10	Front wall studs
8	2 x 4	10	Rear wall studs
14	2 x 4	16	Side wall studs
7	2 x 4	14	Side wall studs
6	2 x 4	10	Top plate
1	2 x 4	14	Top plate
1	2 x 4	16	Top plate
3	2 x 4	16	Framing for dropping boards
2	2 x 4	10	Lattice window sills, top and bottom
15	2 x 4	10	Perches
4	2 x 6	12	Glass window sills, top and bottom
2	2 x 6	14	Front and rear bottom sills
2	2 x 6	16	Front and rear bottom sills
6	2 x 6	10	Center girders
16	2 x 6	14	Rafters
16	2 x 6	16	Rafters
2	4 x 4	8	Center brace posts
2	1 x 4	14	Lattice window frames
8	1 x 4	16	Corner strips and verge boards
5	1 x 4	14	Verge boards

850 feet B. M. 6-inch siding

1335 feet B. M. 8-inch shiplap roof

180 feet B. M. 10 foot shiplap for dropping boards

76 pieces lattice strips 10 feet for lattice windows and top ventilator

9 rolls prepared roofing for roof

7 rolls tar paper for floor

3 sash, 4-light, 8- by 10-inch glass for rear windows

9 sash, 9-light, 10- by 12-inch glass for front and end windows

9 four-inch T hinges for inside rear ventilator door.

9 six-inch T hinges for outside rear ventilator door

1 pair 6-inch T hinges for small end door

14 feet bird-proof track with rollers for door

2 latches for doors

36 feet ¼-inch mesh hardware cloth 36 inches wide for covering glass windows

10 feet ¼-inch mesh hardware cloth 48 inches wide for covering lattice windows

64 sacks cement, 5½ yards sand, 5½ yards stone — or — 5½ yards sand, 5 yards gravel

A free poultry correspondence course is offered to all residents of Ohio. Write for particulars to J. E. McClintock, Department of Publications, The Ohio State University, Columbus, Ohio.